Remarks

Review and reconsideration of this application are respectfully requested.

Claims 1, 8, 9, 10, 27 and 28 are in this application, claims 2-7 and 11-26 having been canceled and claims 27 and 28 having been newly added.

Claims directed to a cover layer and to a tie layer have been canceled from the application. Therefore, the present invention is now directed to a hose formed solely from a single layer as defined in the remaining pending claims.

Applicant notes and appreciates the acceptance and recordation of the terminal disclaimer filed on November 19, 2004.

Claim 7 is objected to because, in the amendment to the claim, it appears as if the dependency of this claim was lined through as to be removed, however, it is believed that such was a typographical error.

Applicant confirms that such amendment to claim 7 was indeed a typographical error. However, since claim 7 has now been canceled, such objection can be withdrawn.

The present invention as presently claimed is directed to a hose for use in applications where dissipation of static buildup is not required. The hose comprises a single tubular structure formed from polybutylene terephthalate or polybutylene naphthalate, and the polybutylene terephthalate or polybutylene naphthalate extends throughout the entire single tubular structure. Furthermore, the claims have now been amended to specifically exclude the presence of a conductive agent. The exclusion of a conductive agent such as carbon black has been shown to improve the strength and durability of the polybutylene terephthalate or polybutylene naphthalate hoses when compared to comparable polybutylene terephthalate or polybutylene naphthalate

hoses that contain such conductive agents. The examiner's attention is directed to the last 5 lines of page 2 of the specification which states "While the single layer hose of polybutylene terephthalate or polybutylene naphthalate exhibits all of the above characteristics, it has now been found that the strength and durability of such hose which contains a conductive agent are less than the strength and durability of a polybutylene terephthalate or polybutylene naphthalate hose which does not contain a conductive agent."

The hose of the present invention is useful in a variety of applications where dissipation of static electricity buildup is not required. For example, the present hose is useful as automobile fuel vent hoses, industrial hydraulic hoses, torque converter hoses, power steering hoses, air conditioner hoses, brake fluid hoses, compressed gas hoses, refrigerator hoses, garden hoses, propane gas hoses, etc., but are not useful as fuel transport hoses.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Pfleger (398). The examiner alleges that Pfleger discloses the recited hose for use in an application where dissipation of static charge buildup is not required comprising a tubular structure where the innermost layer 2 consists of a wall that is made of PBT through the entire thickness of layer 2, where no conductive material is added to the layer.

Applicant submits that Pfleger teaches a multilayer hose which requires the presence of at least an inner layer that may contain PBT and an outer layer that is preferably a polyamide. Since the present hose is directed to a single layer hose containing a non-conductive matrix material selected from the group consisting of PBT and PBN, it is believed that the present hose is neither anticipated nor rendered obvious by the teachings of Pfleger. Accordingly, this rejection can be withdrawn.

Claims 1 and 8-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Ito (330). The examiner alleges that Ito discloses the recited tubular structure for use with fuel systems which inherently has impermeability properties where the tubular structure comprises using a polyalkylene terphthalate or naphthalate such as PBT. The inner layer can be formed of a single

or multiple layers where elemental carbon black or carbon black can be used to provide the inner layer with static dissipating properties, and where a protective cover layer can be provided which can be made of a polyolefin such as polypropylene or polyamides such as nylons, and the use of the tube for connecting to a fuel filler is considered intended use.

Applicant contends that Ito teaches a multilayer hose for use in transporting fuel in which the inner layer which may be a single layer or a multiplayer, and which preferably contains an electrically conductive material such as carbon black. The inner layer may be PBT or PBN and the outer layer is a nylon or polyolefin. Since the present claims have been amended to define a single layer hose which specifically eliminates the presence of a conductive agent, it is believed that Ito neither anticipates nor renders the present invention obvious. Accordingly, this rejection can be withdrawn.

Claims 1, 2, 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Brunnhofer (705). The examiner alleges that Brunnhofer discloses the recited tubular structure for use with fuel systems which inherently has impermeability properties where the tubular structure comprises using a polyalkylene terephthalate or naphthalate such as PBT. The inner layer 1 can be formed of a single or multiple layers, and where a protective cover layer 2 can be provided which can be made of a polyolefin such as polypropylene or polyamides such as nylons, and the use of the tube for connecting to a fuel filler funnel is considered intended use.

Applicant contends that Brunnhofer, like Ito, teaches a multilayer hose for use in transporting fuel in which the inner layer which may be a single layer or a multiplayer. The inner layer may be PET or PBT and the outer layer is a nylon, polypropylene, PET or PBT. While Brunnhofer does not disclose a conductive agent, it is well known in the art that where a polymeric hose is used to transport fuel, the hose must contain a conductive agent in at least the inner layer of the hose. Since the present claims have been amended to define a single layer hose which specifically eliminates the presence of a conductive agent, it is believed that Brunnhofer neither anticipates nor renders the present invention obvious. Accordingly, this rejection can be withdrawn.

Claims 2, 4 and 5 are rejected are rejected under 35 U.S.C 103(a) as being unpatentable over Ito (330) in view of Walsh (711). The examiner alleges that Ito discloses all of the recited structure with the exception of using chlorinated polyolefins such as chlorinated polyethylene for the outer layer. The patent to Walsh discloses a fuel tube comprising an inner layer 12 which can be made conductive and a protective layer 14 which can be made of chlorinated polyolefins of which polyethylene and polypropylene are known polyolefins. It would have been obvious to one skilled in the art to modify the cover layer of Ito to be formed of a chlorinated polyolefin as suggested by Walsh as such is another type of material used for cover layers which has a different and improved properties.

Applicant submits that Ito has been sufficiently discussed above and that the present invention is distinguished over such reference to Ito. Walsh, like Ito, discloses a multilayer hose used in the transportation of fuel. And as such is not pertinent to the present invention. In any case, it is noted that the rejected claims 2, 4, and 7 have been canceled and, as such, this rejection is moot. Accordingly, applicant respectfully requests that this rejection be with drawn.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito in view of Walsh as applied to claims 2, 4, and 5 above, and further in view of Kawazura. The examiner alleges that Ito as modified discloses all of the recited structure with the exception of providing a tie layer to connect the inner layer and the outer layers formed of anhydride modified linear low density polyethylene. The patent to Kawazura discloses that it is old and well known to provide a connective or tie layer made of anhydride modified with linear low density polyethylene to connect inner and outer layers made of different materials including PBT and PBN. It would have been obvious to one skilled in the art to modify the hose in Ito as modified by providing a tie layer formed of anhydride modified linear polyethylene to connect the PBT or PBN layer to other material layers as suggested by Kawazura to prevent delamination and thereby save repair or replacement costs.

Applicant has sufficiently discussed the Ito reference and the Walsh above and it is

believed that such discussion clearly distinguishes the present tubular structure over both the Ito and Walsh references. With respect to the Kawazura patent, applicant suggests that the rejected claims falling under this rejection are dependent claims and, as such, these dependent simply further limit the corresponding independent claims from which they depend. In view of the above distinctions between the present hose of the present invention and the structure of Ito, it is believed that the disclosure of Kawazura adds nothing to the primary reference to Ito, which would render the present invention obvious. Furthermore, the Kawazura reference is so voluminous and covers so many different layers and compounds, that it would be virtually impossible for one to study both Ito and Kawazura and emerge with the effective tubular structure of the present invention. Furthermore, the examiner will note that the rejected claims 6 and 7 have been canceled by this amendment. Accordingly, this rejection is moot and it is respectfully requested that the rejection be withdrawn.

Claims 11, 17-19, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito in view of Walsh and Kawazura. The examiner alleges that all of the recited structure with the exception of using chlorinated polyolefins such as chlorinated polyethylene for the outer layer, and providing a tie layer to connect the inner and outer layers formed of anhydride modified linear low density polyethylene. The patent to Walsh discloses a fuel tube comprising an inner layer 12 which can be made conductive and a protective layer 14 which can be made of chlorinated polyolefins of which polyethylene and polypropylene are known polyolefins. It would have been obvious to one skilled in the art to modify the cover layer of Ito to be formed of chlorinated polyolefin as suggested by Walsh as such is another type of material used for cover layers which has different and improved properties. The patent to Kawazura discloses that it is old and well known to provide a connective or tie layer made of anhydride modified linear low density polyethylene to connect inner and outer layers made of different materials including PBT and PBN. It would have been obvious to one skilled in the art to modify the hose in Ito by providing a tie layer formed of anhydride modified linear polyethylene to connect the PBT or PBN layer to other material layers as suggested by Kawazura to prevent delamination and thereby save repair or replacement costs.

Applicant has sufficiently discussed the Ito reference and the Walsh reference above and it is believed that such discussion clearly distinguishes the present tubular structure over each of the Ito and Walsh references. With respect to the Kawazura patent, applicant suggests that the rejected claims falling under this rejection are dependent claims and, as such, these dependent simply further limit the corresponding independent claims from which they depend. In view of the above distinctions between the present hose of the present invention and the structure of Ito, it is believed that the disclosure of Kawazura adds nothing to the primary reference to Ito, which would render the present invention obvious. Furthermore, the examiner will note that the rejected claims 11, 17-19, 25 and 26 have been canceled by this amendment. Accordingly, this rejection is moot and it is respectfully requested that the rejection be withdrawn.

Claims 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunnhofer in view of Walsh. The examiner alleges that that Brunnhofer discloses all of the recited structure with the exception of using chlorinated polyolefins such as chlorinated polyethylene for the outer layer. The patent to Walsh discloses a fuel tube comprising an inner layer 12 which can be made conductive and a protective layer 14 which can be made of chlorinated polyolefins of which polyethylene and polypropylene are known polyolefins. It would have been obvious to one skilled in the art to modify the cover layer of Brunnhofer to be formed of a chlorinated polyolefin as suggested by Walsh as such is another type of material used for cover layers which has different and improved properties.

Applicant has sufficiently discussed the Brunnhofer reference above and it is believed that such discussion clearly distinguishes the present tubular structure over Brunnhofer. With respect to the Walsh patent, applicant suggests that the rejected claims falling under this rejection are dependent claims and, as such, these dependent simply further limit the corresponding independent claims from which they depend. In view of the above distinctions between the present hose of the present invention and the structures of Brunnhofer, it is believed that the disclosure of Walsh adds nothing to the primary reference to Brunnhofer, which would render the present invention obvious Furthermore, the examiner will note that the rejected claims 2, 4, and 5 have been canceled by this amendment. Accordingly, this rejection is moot and it is

respectfully requested that the rejection be withdrawn.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunnhofer in view of Walsh as applied to claims 2, 4, and 5 above, and further in view of Kawazura. The examiner alleges that Brunnhofer as modified discloses all of the recited structure with the exception of providing a tie layer to connect the inner layer and the outer layers formed of anhydride modified linear low density polyethylene. The patent to Kawazura discloses that it is old and well known to provide a connective or tie layer made of anhydride modified with linear low density polyethylene to connect inner and outer layers made of different materials including PBT and PBN. It would have been obvious to one skilled in the art to modify the hose in Ito as modified by providing a tie layer formed of anhydride modified linear polyethylene to connect the PBT or PBN layer to other material layers as suggested by Kawazura to prevent delamination and thereby save repair or replacement costs.

Applicant has sufficiently discussed the Brunnhofer reference above and it is believed that such discussion clearly distinguishes the present tubular structure over Brunnhofer. With respect to the Walsh patent, applicant suggests that the rejected claims falling under this rejection are dependent claims and, as such, these dependent simply further limit the corresponding independent claims from which they depend. With respect to the Kawazura patent, applicant suggests that the rejected claims falling under this rejection are dependent claims and, as such, these dependent simply further limit the corresponding independent claims from which they depend. In view of the above distinctions between the present hose of the present invention and the structure of Brunnhofer and Walsh, it is believed that the disclosure of Kawazura adds nothing to the primary references, which would render the present invention obvious. Furthermore, the examiner will note that the rejected claims 11, 17-19, 25 and 26 have been canceled by this amendment. Accordingly, this rejection is moot and it is respectfully requested that the rejection be withdrawn.

Claims 11, 17-19, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunnhofer in view of Walsh and Kawazura. The examiner alleges that Brunnhofer

discloses all of the recited structure with the exception of using chlorinated polyolefins such as chlorinated polyethylene for the outer layer, and providing a tie layer to connect the inner and outer layers formed of anhydride modified linear low density polyethylene. The patent to Walsh discloses a fuel tube comprising an inner layer 12 which can be made conductive and a protective layer 14 which can be made of chlorinated polyolefins of which polyethylene and polypropylene are known polyolefins. It would have been obvious to one skilled in the art to modify the cover layer of Ito to be formed of chlorinated polyolefin as suggested by Walsh as such is another type of material used for cover layers which has different and improved properties. The patent to Kawazura discloses that it is old and well known to provide a connective or tie layer made of anhydride modified linear low density polyethylene to connect inner and outer layers made of different materials including PBT and PBN. It would have been obvious to one skilled in the art to modify the hose in Ito by providing a tie layer formed of anhydride modified linear polyethylene to connect the PBT or PBN layer to other material layers as suggested by Kawazura to prevent delamination and thereby save repair or replacement costs.

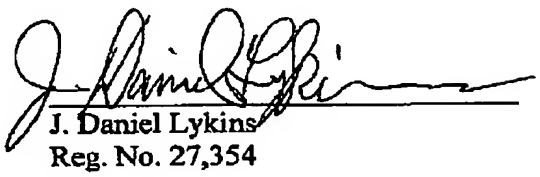
Applicant has sufficiently discussed the Brunnhofer reference and the Walsh above and it is believed that such discussion clearly distinguishes the present tubular structure over both the Ito and Walsh references. With respect to the Kawazura patent, applicant suggests that the rejected claims falling under this rejection are dependent claims and, as such, these dependent simply further limit the corresponding independent claims from which they depend. In view of the above distinctions between the present hose of the present invention and the structure of Ito, it is believed that the disclosure of Kawazura adds nothing to the primary reference to Ito, which would render the present invention obvious Furthermore, the examiner will note that the rejected claims 11, 17-19, 25 and 26 have been canceled by this amendment. Accordingly, this rejection is moot and it is respectfully requested that the rejection be withdrawn.

Applicant notes that the examiner states on page 6 of the official action that there is prior art which teaches tubes can be made of single layers, or multiple layers as needed, and such may not be allowable should applicant correct the language of the claims to only recite a tube of a single layer or a single material. However, it is believed that the present claims as amended

above represent a significant improvement over the art and, as such, are considered to be allowable

In view of the foregoing amendments and remarks, it is believed that the present application is now in condition for allowance and an early indication thereof is earnestly solicited.

Respectfully submitted,



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